CLAIMS

1. A device for applying controlled and adjustable compression to a limb, the device being characterized in that it comprises:

· a tubular sleeve (14) surrounding the limb (12), the sleeve comprising an anterior portion (16) of inextensible or relatively inextensible material suitable for bearing against a relatively incompressible region of the limb, and a posterior portion (18) of relative extensible material, suitable for covering the region of the limb that is to be compressed, the two portions being connected together substantially along two generator lines of the tubular sleeve forming connection generator lines (20);

· a plurality of inflatable balloons (22) disposed on the inside face of the anterior portion of the tubular sleeve along a generator line thereof situated at an intermediate position between the two connection generator lines between the two portions of the tubular sleeve, the balloons being suitable for being interposed between the inextensible material and said relatively incompressible region of the limb; and

· means (24, 26, 28) for inflating each of the balloons in differing manner to respective given pressures, so as to apply deformation to the anterior portion of the sleeve that is suitable for inducing a traction force exerted on the extensible posterior portion, said force being distributed regularly along the connection generator lines and acting perpendicularly to said generator lines, said traction force thus giving rise to compression action on the compressible region of the limb.

2. The device of claim 1, in which the anterior portion includes a zip fastener (40) extending over a major fraction of the length of the sleeve.

3. The device of claim 1, in which the anterior portion includes, at least over the top portion of the length of the sleeve, a closure enabling the diameter of the sleeve to be adjusted at a plurality of points.

4. The device of claim 1, in which the material of the anterior portion and the material of the posterior portion are both knitted materials that are made together simultaneously by knitting.

5. The device of claim 1, further including pressure sensors (34) interposed between the material of the posterior portion and the limb to be compressed.

6. The device of claim 5, in which the means for inflating each of the balloons in different manner are means further controlled as a function of comparisons performed between the signals delivered by the pressure sensors and corresponding reference values that are a function of a desired pressure profile.

7. The device of claim 1, further including at least one inflatable pouch (42) disposed locally at a predetermined location of the posterior portion of the tubular sleeve, and suitable for filling in a concave portion of the region of the limb that is to be compressed.

8. The device of claim 1, in which the material of the posterior portion is a material that is transparent to ultrasound.